

REMARKS:

The above-identified patent application has been amended and Applicants respectfully request the Examiner to reconsider and again examine the claims as amended.

Claims 1 to 4 are pending in the application. Claims 1 and 2 are rejected. Claim 1 is amended herein. Claims 3 and 4 were withdrawn.

In accordance with the revised provisions of 37 C.F.R. §1.121(c) as enacted on July 30, 2003, a marked up version of specification paragraphs and claims is provided hereinabove. Also attached are figures having markings to show changes made.

Applicants wish to thank the Examiner for again providing a copy of the last office action. In the process of moving responsibility of this application from Raytheon's west coast operation to Raytheon's corporate headquarters, the office action was inadvertently lost.

Applicants have also submitted herewith a new power of attorney and change of correspondence as well as a Petition for Extension of Time for Three Months with the concurrently filed Request for Continued Examination.

Applicants have reviewed the specification and drawings and have amended the specification and drawings in view of the Examiner's comments and Applicant's review.

The Examiner is requested to approve the following drawing changes, as shown in red on the enclosed photocopies attached hereto in the Appendix.

In FIG. 1, add the numeral 12 and associated lead line and extend the lead lines associated with numerals 14a and 14b as shown;

In FIG. 4, delete "20a" and replace with --22a--, --22b--, and --22c-- as shown and move

the surface lines associated with 22a and 22b to match the hand drawn drawing as originally filed;

In FIG. 6, delete "21" and replace with --21'-- as shown; and

In FIG. 9, delete "1546" and replace with --E46-- and delete "157" and replace with --E7-- in the legend as shown.

If the Examiner approves these drawing changes, formal replacement drawings incorporating the changes will be submitted thereafter.

The Examiner rejected Claims 1 and 2 under 35 U.S.C. §102 as being anticipated by Applicant's admitted prior art (APA), figures 1 and 3-4.

Applicants respectfully requests for the Examiner to reconsider Applicants comments in the paper filed on 11/17/2003. Furthermore, as described in page 4, lines 12 -19, "the effect of such process is to "grow" columns 17 of SiO_x , as shown in FIG. 3. The directors are indicated by numerical designation 19 in FIG. 3. It is first noted that the columns 17 have a longitudinal axis 21 which is at an oblique angle, α , typically no smaller than 50 degrees with respect to the surface of the substrate 14b. Referring also to FIG. 4, it is noted that the effect of the impacting deposition flux of SiO_x is to form the distal end 20 of the column 17 of SiO_x with a surface 22 that grows towards an oblique angle β (FIG. 3) with respect to the surface of the substrate 14b." The latter describes the problem of the prior art that Applicants are attempting to overcome.

As described in page 9, lines 8-11, atoms are given a preferential surface diffusion in the opposite direction which leads to: (a) a reduction in column angle, α' (FIG. 6) as compared to α (FIG. 3); (b) densification of the deposited column 17', and (c) and planarization of the surface, i.e., planarization of the distal ends 20' of the columns 17; (FIGS. 6 and 7). At higher ion beam energies, surface sputtering occurs which assists in planarizing the sample surface. The latter describes the improvement over the prior art.

More specifically, FIG. 4 as originally submitted does not describe nor suggest a surface substantially flat and substantially parallel to the surface of the first substrate.

In view of the above, Applicants submit that Claim 1 and Claim 2 are patentably distinct over the APA.

The Examiner is respectfully invited to telephone the undersigning attorney if there are any questions regarding this Amendment or this application.


Applicants have submitted herewith a Petition for an Extension of Time for three months with a check to cover the costs of the petition. Authorization to charge Daly, Crowley & Mofford, LLP Deposit Account No. 50-0845 for any excess fees due or credit any overpayment is hereby given.

Accordingly, re-examination and reconsideration are requested in view of the above amendment and remarks.

Respectfully submitted,

Dated: August 17, 2004

DALY, CROWLEY & MOFFORD, LLP

By: 

Donald F. Mofford

Reg. No. 33,740

Attorney for Applicant(s)

275 Turnpike Street, Suite 101

Canton, MA 02021-2354

Tel.: (781) 401-9988, ext. 13

Fax: (781) 401-9966

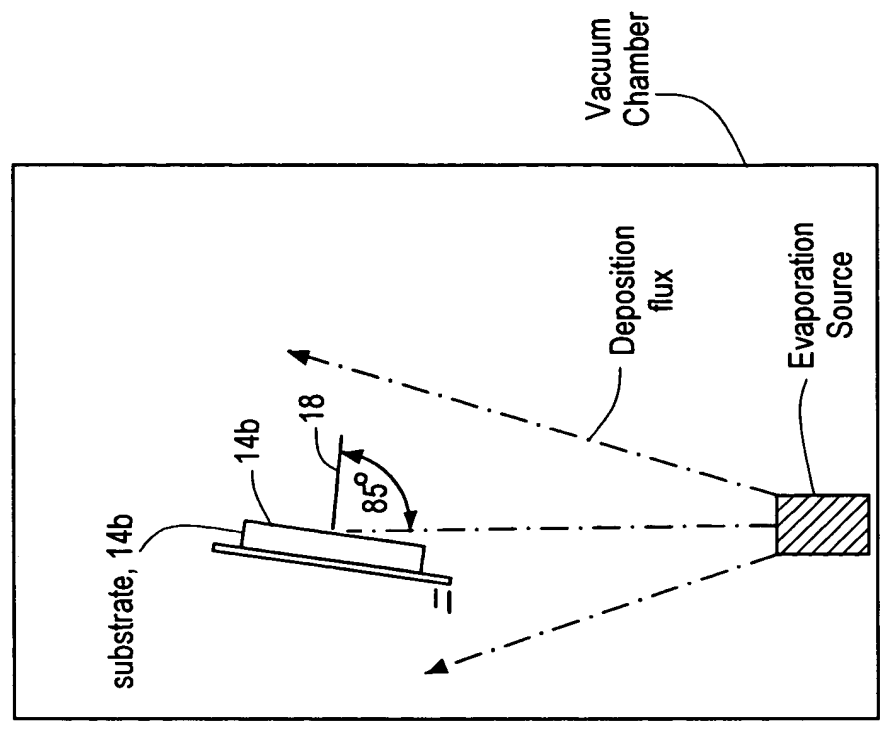


FIG. 2
 PRIOR ART

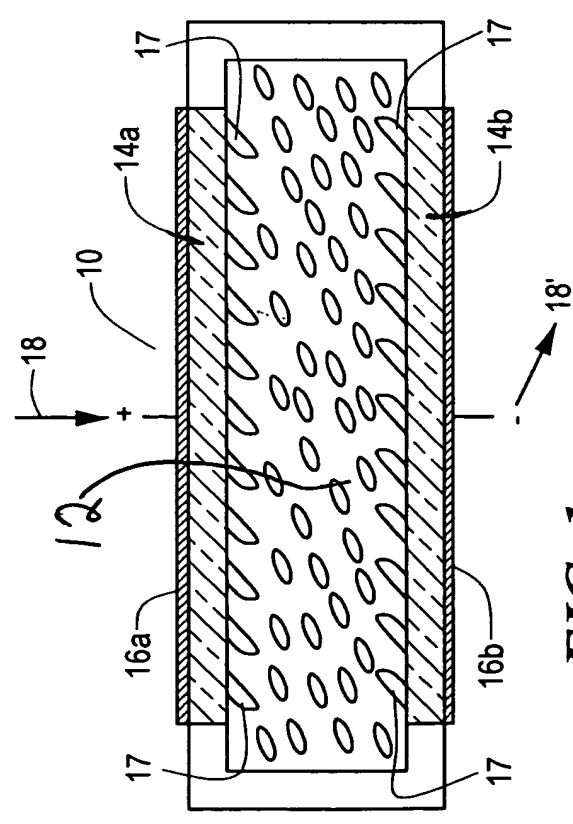


FIG. 1
 PRIOR ART



09/796,166
 ANNOTATED SHEET SHOWING CHANGES

3/6

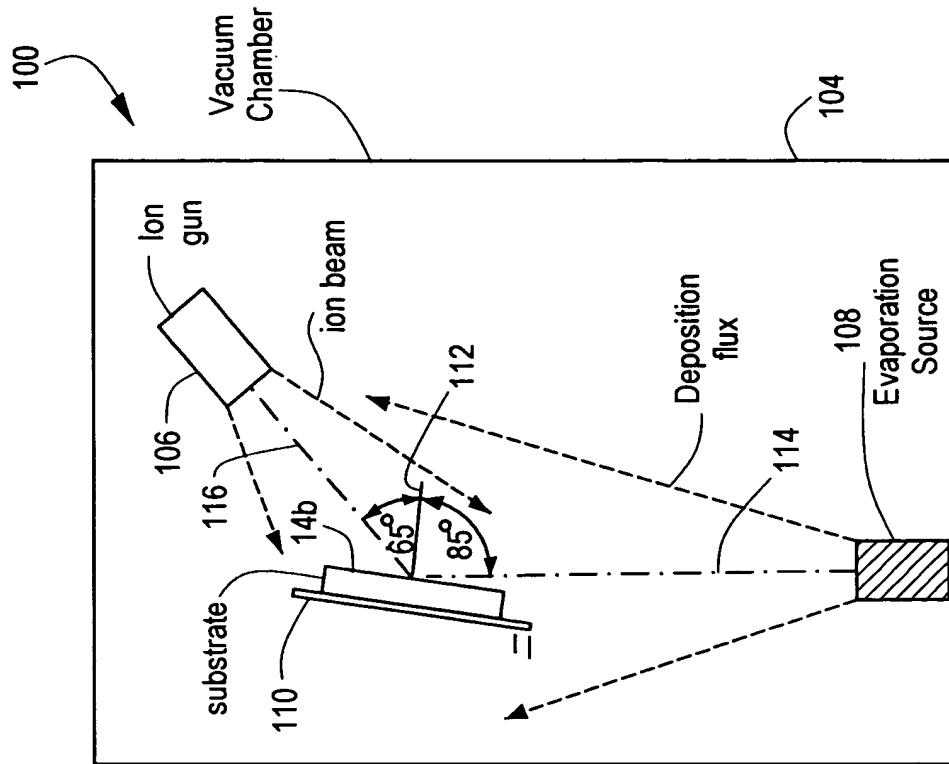


FIG. 5

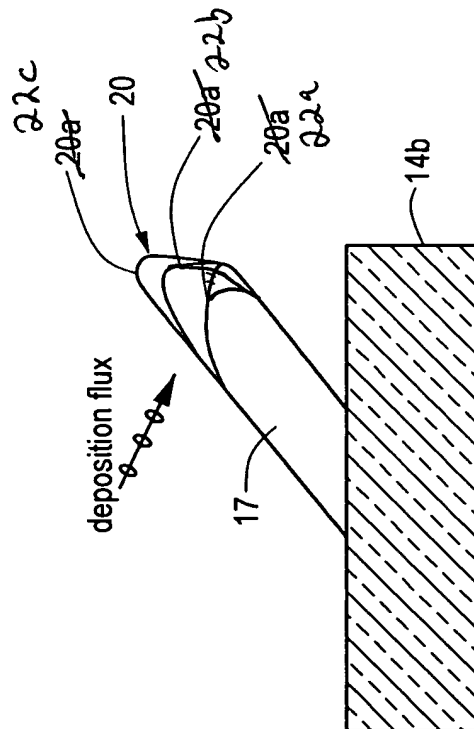


FIG. 4
 PRIOR ART